Supplement to Electrical and Electronic Trader
23 April 1971

Alba 675

1975

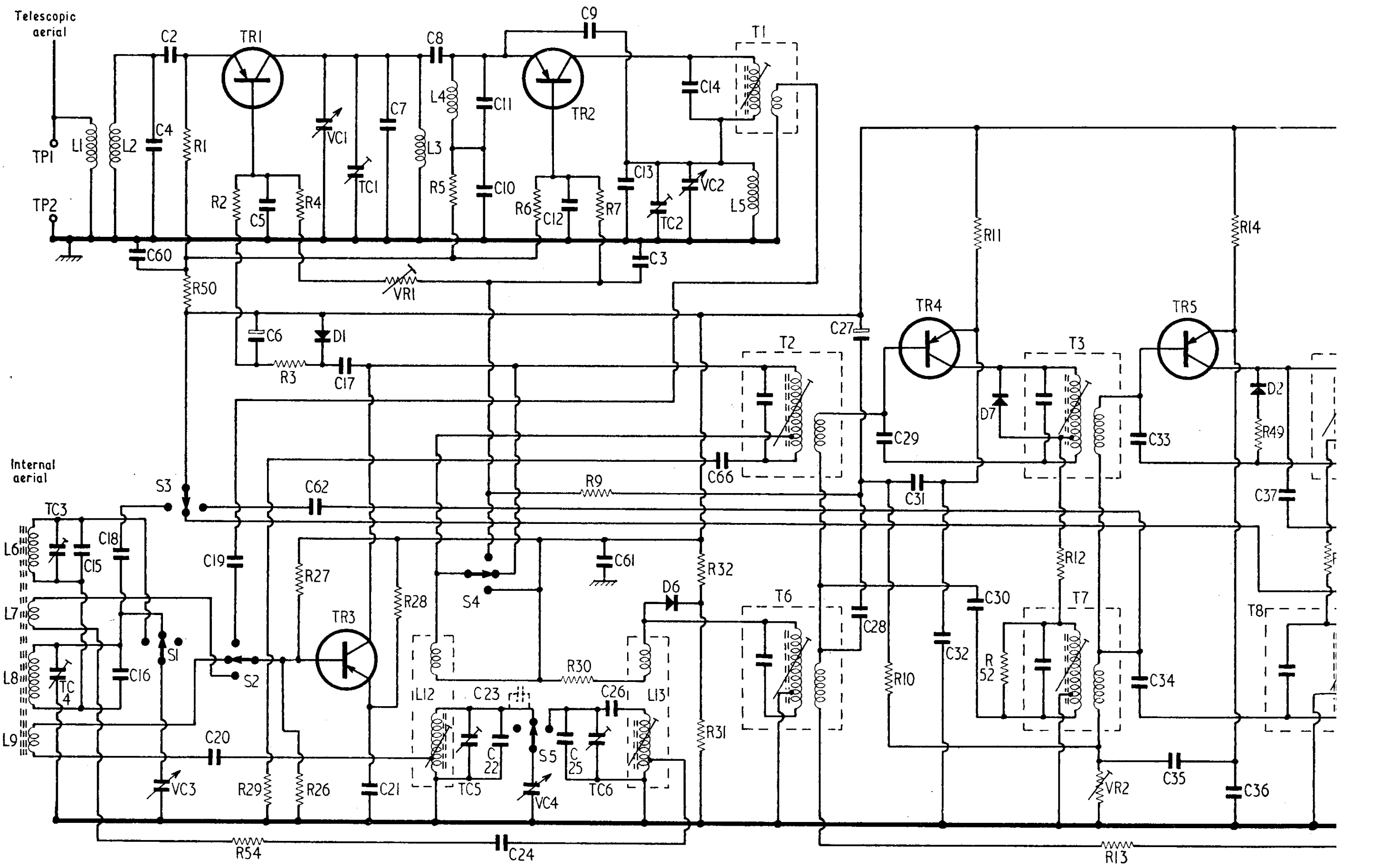
A.m./f.m. battery operated portable radio receiver

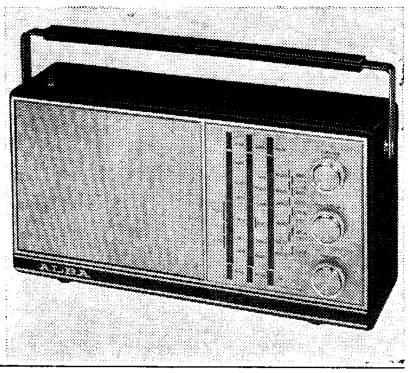
Component values and locations

Component numbers in table and circuit diagram, correspond with those used in the manufacturer's service manual.

Resistors													
			R9	8·2kΩ	A1	R18	1·5kΩ	A2	R27	3·9kΩ	A1	R
			R10	10kΩ	A2	R19	1kΩ	A2	R28	3·3kΩ	A1	R
R1	220Ω	B1	R11	680Ω	A1	R20	1kΩ	A2	R29	15kΩ	A1	R
R2	2·2kΩ	B1	R12	150Ω	A1	R21	10kΩ	A2	R30	100Ω	B1	R
R3	5·6kΩ	B1	R13	5·6kΩ	A2	R22	1kΩ	A2	R31	2·2kΩ	A1	R
R4	33kΩ	B1	R14	1kΩ	A2	R23	100kΩ	A2	R32	15kΩ	A1	R
R5	1·2kΩ	B1	R15	220Ω	A2	R24	100kΩ	A2	R33	47kΩ	B2	R
R6	2·2kΩ	B1	R16	270Ω	A2	R25	5·6kΩ	A2	R34	10kΩ	B2	R
R7	5·1kΩ	B1	R17	560Ω	A2	R26	15kΩ	A1	R35	1kΩ	B2	R

C	60 4 2 6 5 VC1 17 TC1 7 8 10 11 12 9 13 3 TC2 14 VC2 27 33
	TC3 TC4 15 18 16 VC3 20 19 62 21 TC5 22 24 VC4 25 TC6 61 26 66 28 29 31 32 30 34 35 36 37
R	1 50 2 3 4 VR1 5 6 7 11 14
	54 29 26 27 28 30 9 32 31 10 52 12 VR2 13 49
L	1 2 3 4 5 T1 T2 T3
	6,7,8,9 12 13 T6 T7



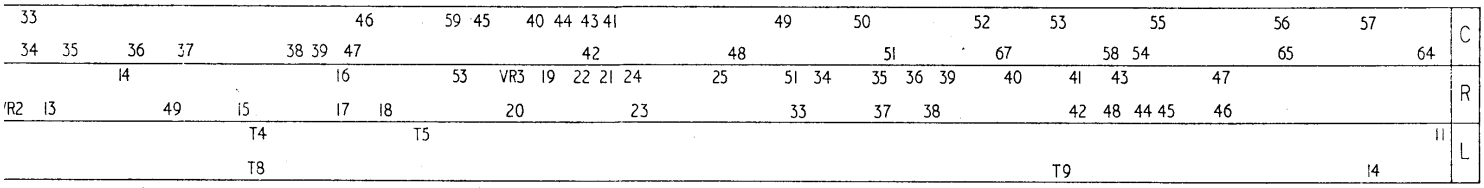


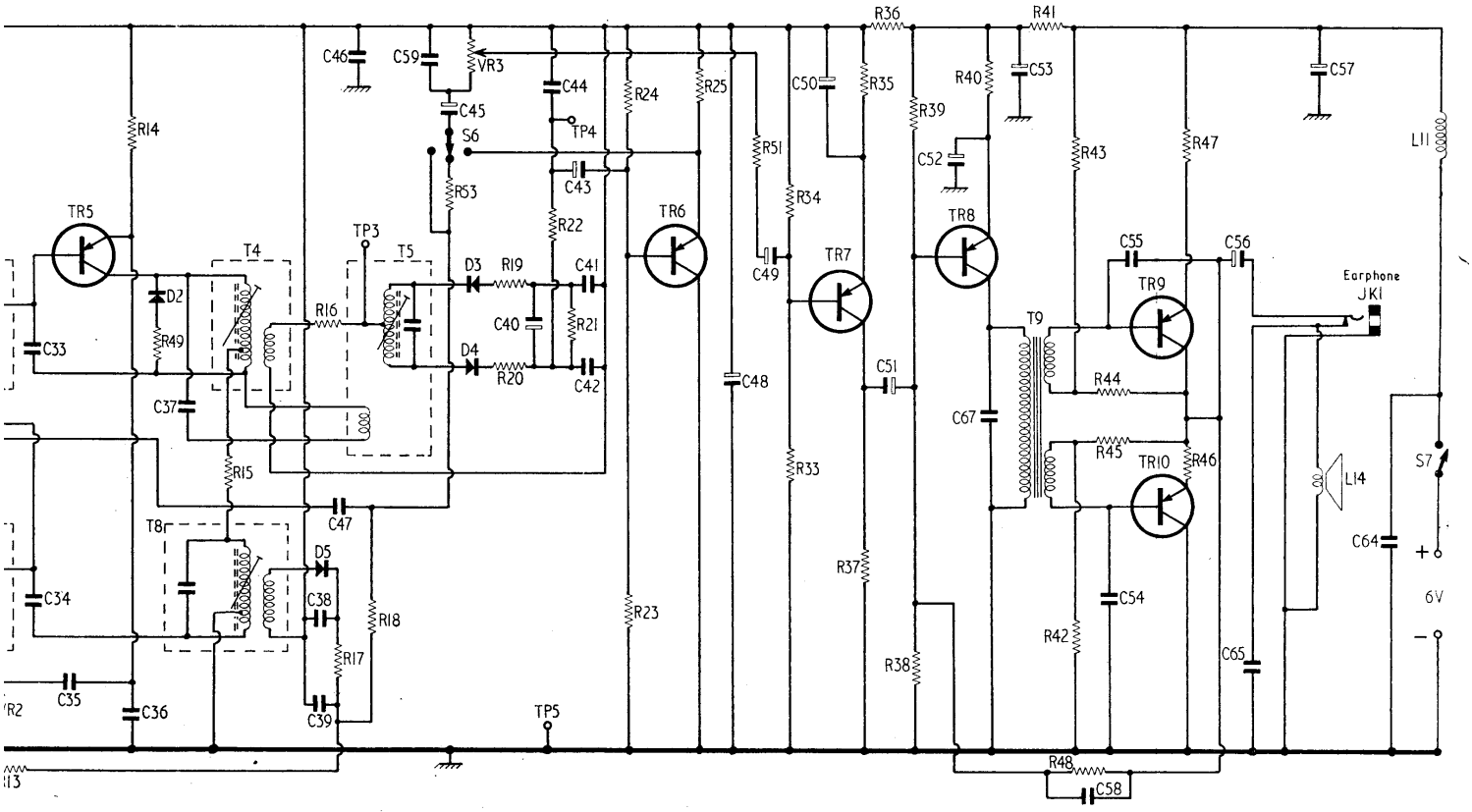
R27	3·9kΩ	A1	R36	68Ω	B2	R45	68Ω	B2
R28	3·3kΩ	A1	R37	2·2kΩ	B2	R46	1Ω	A2
R29	15kΩ	A1	R38	10kΩ	B2	R47	1Ω	B2
R30	100Ω	B1	R39	3·9kΩ	B2	R48	39kΩ	B2
R31	2·2kΩ	A1	R40	390Ω	B2	R49	3·9kΩ	A2
R32	15kΩ	A1	R41	56Ω	B2	R50	100Ω	B1
R33	47kΩ	B2	R42	1kΩ	B2	R51	1·5kΩ	B2
R34	10kΩ	B2	R43	68Ω	B2	R52	330kΩ	A1
R35	1kΩ	B2	R44	1kΩ	B2	R53	1·5kΩ	A2

R54	47Ω	B1	C24	3000pF	B1	C54	0·01μF	A2
VR1	100kΩ	B1	C25	10pF	B1	C55	0·01μF	A2
VR2	100kΩ	A2	C26	270pF	B1	C56	220μF	A2
VR3	5kΩ	B2	C27	10μF	A1	C57	220μF	A2
Capacitors			C28	1000pF	A1	C58	200pF	B2
			C29	10pF	A1	C59	200pF	B2
C2	0·01μF	B1	C30	4pF	A1	C60	0·02μF	B1
C3	0·02μF	A1 /B1*	C31	0·02μF	A1	C61	0·04μF	—
C4	80pF	B1	C32	0·04μF	A1	C62	0·04μF	A2
C5	1000pF	B1	C33	12pF	A2	C64	0·04μF	B2
C6	4·7μF	B1	C34	4pF	A2	C65	0·02μF	A2
C7	16pF	B2	C35	0·02μF	A2	C66	10pF	A1
C8	3pF	B1	C36	0·02μF	A2	C67	500pF	—
C9	5pF	B1	C37	25pF	A2	TC1	—	B2
C10	500pF	B1	C38	0·01μF	A2	TC2	—	B1
C11	20pF	B1	C39	0·01μF	A2	TC3	—	A1
C12	1000pF	B1	C40	4·7μF	A2	TC4	—	A1
C13	18pF	B1	C41	1000pF	A2	TC5	—	B1
C14	40pF	A1	C42	1000pF	A2	TC6	—	B1
C15	5pF	A1	C43	4·7μF	A2	VC1	—	B1
C16	20pF	A1	C44	5000pF	A2	VC2	—	B1
C17	17pF	A1	C45	4·7μF	B2	VC3	—	A1
C18	0·01μF	A2	C46	0·02μF	A2	VC4	—	A1
C19	5000pF	A1	C47	0·02μF	A2			
C20	0·01μF	B1	C48	220μF	A2	**Inductors**		
C21	0·01μF	A1	C49	4·7μF	B2			
C22	90pF	B1	C50	33μF	B2	L1	—	B1
C23†	—	A1	C51	0·5μF	B2	L2	—	B1
			C52	33μF	B2	L3	—	B1
			C53	220μF	B2	L4	—	B1

L5	—	A1	**Miscellaneous**					
L6	—	B1						
L7	—	B1	D1	1S188	A1			
L8	—	A1	D2	1S188	A2			
L9	—	A1	D3	1S188	A2			
L11	—	B2	D4	1S188	A2			
L12	—	B1	D5	1S188	A2			
L13	—	B1	D6	1S188	A1			
L14	8Ω	—	D7	1S188	A1			
T1	—	A1						
T2	—	A1						
T3	—	A1						
T4	—	A2						
T5	—	A2						
T6	—	A1						
T7	—	A2						
T8	—	A2						
T9	—	B2						

** Alternative position*
† May not be fitted





1975
Alba 675

Introduction

Incorporating ten transistors and seven diodes, model 675 is a three-band battery operated a.m./f.m. portable radio receiver.

Wavebands covered are l.w. 150-350kHz. (2000-857m), m.w. 540-1605kHz (566-187m) and v.h.f./f.m. 87·5-104MHz. Reception for medium and long wave bands is via an internal ferrite rod aerial assembly, for v.h.f. a telescopic aerial is fitted.

A maximum audio output of 500mW is handled with a 4in diameter 8Ω impedance loudspeaker. A normally closed jack is fitted for the connection of an 8Ω earphone which, when in operation, provides a mute to the loudspeaker.

Operation is from a 6V power supply which is provided by four 1·5V cells, Ever Ready type LPU2 or equivalent.

Circuit alignment

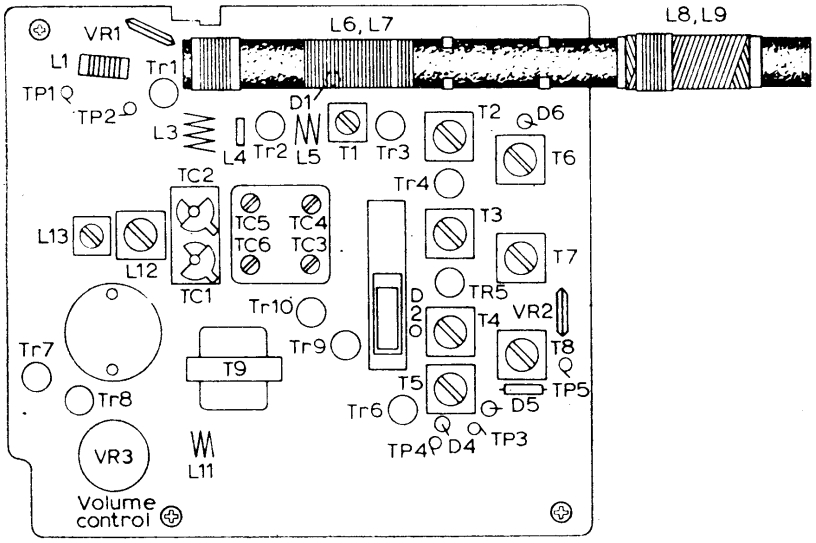
Access to all cores, trimmers and test points is obtained when the back of the receiver case is opened.

A.M. alignment

Equipment required. – An a.m. signal generator, r.f. coupling coil and 8Ω impedance output meter.

Check cursor travel and, if necessary, adjust position on cord so that extreme ends of travel are equal at each end of scale, approximately $\frac{1}{8}$in.

Replace loudspeaker with output meter. For convenience, terminate output meter in a miniature jack plug and insert in earphone jack.



Component-side chassis illustration showing alignment points.

Transistor analysis

Transistor voltages given in the table were obtained from data supplied by the manufacturers. They were measured under quiescent conditions with a 20,000Ω/V meter and are all positive with respect to chassis. The receiver was tuned to the extreme low frequency end of the m.w. or v.h.f./f.m. band and the volume control was at maximum.

Transistor table

Transistor		A.M. Emitter (V)	Base (V)	Collector (V)	F.M. Emitter (V)	Base (V)	Collector (V)
TR1	2SA440	5·3	5·1	—	4·4	3·9	—
TR2	2SA440	5·3	5·3	—	2·9	2·6	—
TR3	2SA324	4·1	3·9	—	3·1	2·9	0·15
TR4	2SA321	4·9	4·6	0·1	4·3	3·9	0·15
TR5	2SA321	4·1	3·6	0·2	3·5	3·1	0·3
TR6	2SB171*	4·0	2·6	—	3·7	2·3	—
TR7	2SB171*	4·6	4·3	1·4	4·2	3·9	1·2
TR8	2SB171*	4·3	4·1	0·3	4·1	3·9	0·25
TR9	2SB187	6·0	5·9	3·0	6·0	5·9	3·0
TR10	2SB187	3·0	2·8	0	3·0	2·8	0

* *May be type 2SB185*

Terminate signal generator in the r.f. coupling coil and loosely couple coil to ferrite rod aerial assembly.

Rotate volume control to maximum and maintain an audio output power of 50mW, attenuating input signal as necessary so that the receiver a.g.c. does not mask alignment peaks.

1. – Switch receiver to m.w., rotate tuning gang to maximum capacitance and feed in a 470kHz a.m. signal. Adjust **T6, T7** and **T8** for maximum output. Repeat for optimum results.

2. – Switch receiver to l.w., rotate tuning gang to maximum capacitance and feed in a 145kHz a.m. signal. Adjust **L12** for maximum output.

3. – Rotate tuning gang to minimum capacitance and feed in a 365kHz a.m. signal. Adjust **TC6** for maximum output.

4. – Feed in a 160kHz a.m. signal and tune receiver to this signal. Adjust position of **L8** on ferrite rod for maximum output.

5. – Feed in a 340kHz a.m. signal and tune receiver to this signal. Adjust **TC3** for maximum output.

6. – Repeat operations 2 to 5 for optimum results.

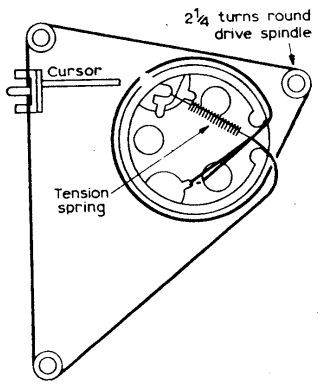
7. – Switch receiver to m.w., rotate tuning gang to maximum capacitance and feed in a 505kHz a.m. signal. Adjust **L13** for maximum output.

8. – Rotate tuning gang to minimum capacitance and feed in a 1,650kHz a.m. signal. Adjust **TC5** for maximum output.

9. – Feed in a 570kHz a.m. signal and tune receiver to this signal. Adjust position of **L6** on ferrite rod for maximum output.

10. – Feed in a 1,400kHz a.m. signal and tune receiver to this signal. Adjust **TC4** for maximum output.

11. – Repeat operations 7 to 10 for optimum results. Disconnect test equipment.



F.M. alignment

Equipment required. – A wobbulator, a c.r.o. (oscilloscope), a dummy aerial and 8Ω output meter.

Terminate wobbulator in the dummy aerial and connect between test points TP1 and TP2. Connect c.r.o. between TP3 and TP5.

Feed in a 10·7MHz signal deviated 300kHz at 50Hz. Adjust **T1, T2, T3** and **T4** for maximum trace amplitude and symmetry about 10·7MHz.

Transfer c.r.o. to test points TP4 and TP5 and adjust **T5** for optimum symmetry of 'S' surve. Disconnect c.r.o.

Connect output meter in place of loudspeaker (as for a.m. alignment) and rotate volume control to maximum.

Tune receiver to 90MHz and feed in a 90MHz signal deviated 25kHz at 1kHz. Adjust turns spacing of **L5** for maximum output.

Tune receiver to 104MHz and feed in a 104MHz signal deviated 25kHz at 1kHz. Adjust **TC2** for maximum output.

Retune receiver to 90MHz, feed in a 90MHz f.m. signal and adjust turns spacing of **L3** for maximum output.

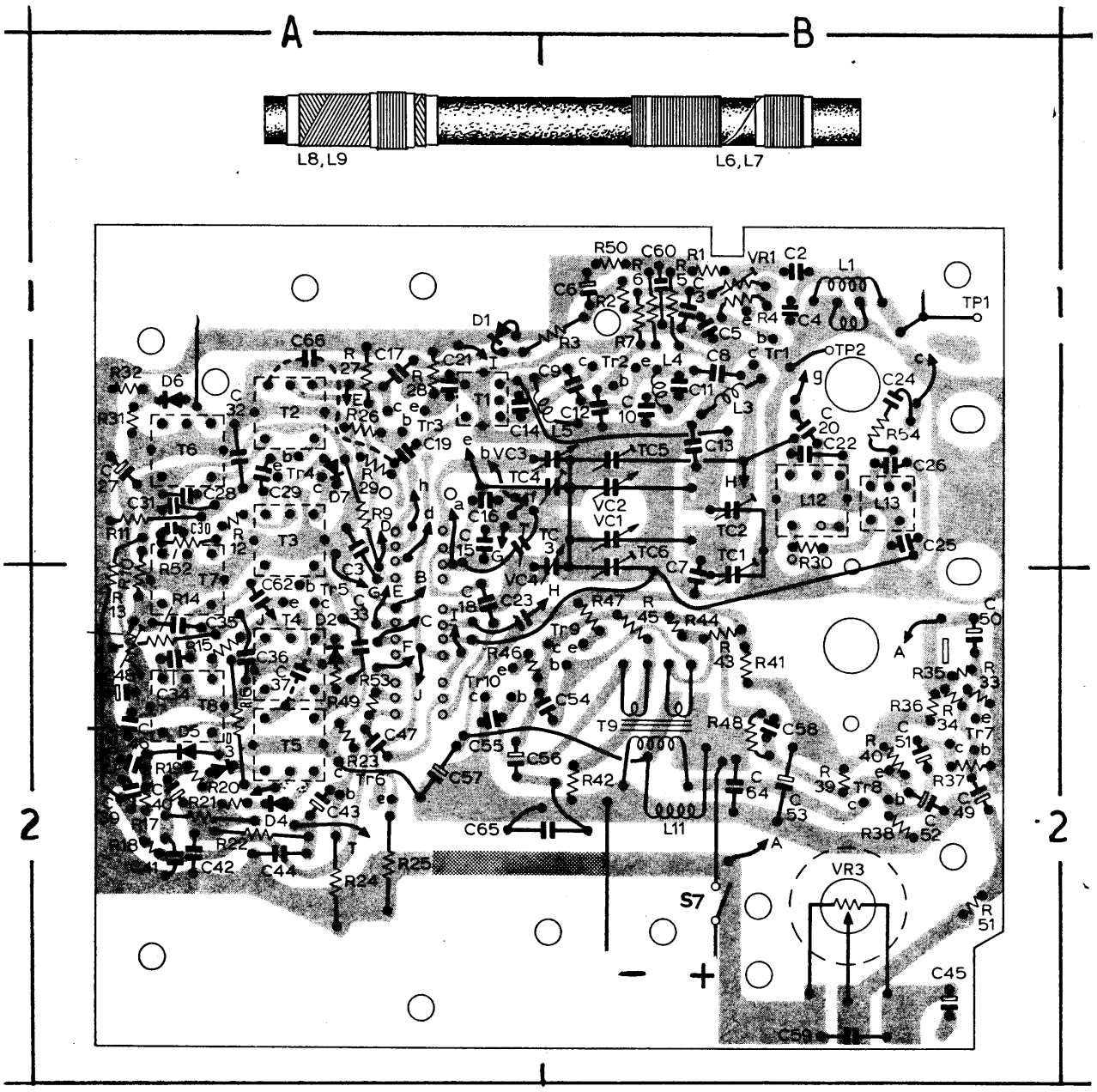
Tune receiver to 104MHz, feed in a 104MHz f.m. signal and adjust **TC1** for maximum output.

Repeat all r.f. adjustments for optimum results and disconnect test equipment.

General notes

Dismantling. – To gain access to foil side of printed panel and drive cord assembly. First remove batteries then pull off the three front control knobs. Unscrew and remove the three Phillips-head screws and washers securing the panel. In order to reverse panel it may be necessary to unsolder the battery positive lead at the switch.

Preset adjustments. – With no signal input **VR1** should be adjusted so that **TR1** collector current is 600uA. Adjust **VR2** so that **TR4** collector current is 450uA.



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